

Please amend the claims as follows. This Listing of Claims will replace all prior versions and Listings of Claims in the application:

Listing of Claims:

1-7. (Canceled)

8. (Currently Amended) A computer program product for controlling the movement of a carrier traveling within a material transport system having a plurality of track zones including a first track zone and a second track zone, the first track zone independently controlled from the second track zone and a control logic computer, wherein the control logic computer includes a computer memory and a computer mechanism defined therein, the computer mechanism comprising:

a first control thread configured to control and monitor operations of the first track zone;

a second control thread configured to control and monitor operations of the second track zone, wherein said first control thread communicates with said second control thread so that said first control thread and second control thread cooperatively accomplish transferring the carrier from the first track zone to the second track zone; and

a director controller configured to control a director connecting ~~the first track zone and the second track zone~~ the plurality of track zones such that the carrier approaching the director has a plurality of exit track zones to exit from the director, wherein the director controller is defined to perform optimal routing of the carrier in the material transport system having more than one path to a destination by directing the director to select one of the plurality exit track zones that provides an optimal routing path for the carrier.

9-29. (Canceled)

30. (Previously Presented) The computer program product of Claim 8:

wherein said first track zone and said second track zone are operable to accelerate the carrier being transported within them; and

wherein said first control thread causes said first track zone to accelerate the carrier to a first target value, determines a second target value to which the carrier should be accelerated by said second track zone, and issues a command to said second control thread indicating said second target value.

31. (Previously Presented) The computer program product of Claim 30, wherein said first track zone and said second track zones are used to transport the carrier between processing stations.

32. (Previously Presented) The computer program product of Claim 8, further comprising:

a third control thread configured to control and monitor operations of a third track zone; and

said third track zone is neighboring said first track zone and said second track zone.

33. (Previously presented) The computer program product of Claim 8 wherein said first track zone comprises at least one of:

a zone including a length of track, at least one drive motor and at least one sensor;

a director capable of rotating a carrier between zones; and

a Load Port Transfer Device.

34. (Previously Presented) The computer program product of Claim 8 wherein said material transport system comprises a transport system employed in a manufacturing facility selected from a semiconductor manufacturing facility, a flat panel display manufacturing facility, a magnetic storage disk drive manufacturing facility or a pharmaceutical manufacturing facility, such that:

when used in the semiconductor manufacturing facility, the material transport system is used to move semiconductor wafers between processing stations;

when used in the flat panel display manufacturing facility, the material transport system is used to move flat panels or flat panel components between flat panel manufacturing stations;

when used in the magnetic storage disk drive manufacturing facility, the material transport system is used to move magnetic storage disks or disk assemblies between disk drive manufacturing stations; and

when used in the pharmaceutical manufacturing facility, the material transport system is used to move pharmaceutical components between pharmaceutical manufacturing stations.

35. (Previously Presented) The computer program product of Claim 8 further comprising:

a first low-level controller coupled to said control logic computer and to said first electromechanical device wherein said first control thread communicates with said first low-level controller.

36. (Previously Presented) The computer program product of Claim 35 wherein said first low-level controller is a first zone controller associated with a first track zone, wherein:

said first zone controller is configured to control and receive zone status information and to send messages to and receive messages from said first zone thread.

37. (Previously Presented) The computer program product of Claim 36 wherein said first zone thread is configured to:

determine using said zone status information when the carrier is entering said first track zone;

determine from stored information updated by a neighboring, upstream zone thread an entry speed at which the carrier is entering the respective track zone;

issue a motor control command to the respective track zone to establish the speed of the carrier in accordance with a speed profile message forwarded by the upstream zone thread and the entry speed;

determine from the stored information updated by neighboring, downstream zones the speed at which the carrier should enter a neighboring downstream zone;

determine from a potential entry speed and location of a destination of the carrier a speed profile of the material in one or more neighboring, downstream zones; and

send the speed profile message to the one or more neighboring, downstream zones causing the speed profile to be executed.

Remarks/Arguments

The enclosed is responsive to the Examiner's Office Action mailed on December 12, 2007. At the time of mailing of the Office Action claims 8, 30-37 were pending. Claims 8, 30-37 were rejected. By way of the present response the Applicants have: 1) amended claim 8; 2) canceled no claims; 3) added no new claim; and 4) argued the patentability of the Applicants' independent claim 8. As such, claims 8 and 30-37 are now pending. The Applicants respectfully request reconsideration of the claims in view of the following arguments and remarks.

The Applicants thank the Examiner for the careful review of the previously filed amendment and withdrawing the rejections based on the prior art cited in the previous Office Action. The undersigned thanks the Examiner for extending the courtesy during the telephonic interview on January 28, 2008 and February 7, 2008.

Rejections under 35 U.S.C. § 103(a):

The Office, in the Office Action mailed on December 12, 2007, has rejected claim 8 as being allegedly unpatentable over U.S. Patent No. 7,269,475 (hereinafter HOGG) in view of U.S. Patent No. 6,039,316 (hereinafter JACKSON). This rejection is respectfully traversed because the cited prior art fails to disclose, teach, or suggest each of the limitations set forth in claim 8.

Claim 8 has been amended to clarify the subject matter of the claim. Amended claim 8 recites a director controller configured to control a director connecting the plurality of track zones such that the carrier approaching the director has a plurality of exit track zones to exit from the director, wherein the director controller is defined to perform optimal routing of the carrier in the material transport system having more than one path to a destination by directing the director to select one of the plurality exit track zones that provides an optimal

routing path for the carrier. The support for this amendment can be found in the Applicants' Specification in paragraph [0478], Figures 36-37 and many other places in the Specification.

The Office concedes that HOGG does not disclose a director controller. However, the Office asserts that JACKSON discloses the director controller in form of second and third level computation elements which controls "zones of control" below it for the purpose of optimally routing the carrier in the material transport system. The Applicants respectfully disagree for the following reasons. Firstly, JACKSON has not disclosed anywhere a material transport system having more than one path to a destination. Secondly, JACKSON has provided no disclosure whatever as to optimal routing of the carrier in the material transport system having more than one path to a destination. That is, JACKSON does not disclose a director controller configured to control a director connecting the plurality of track zones such that the carrier approaching the director has a plurality of exit track zones to exit from the director, wherein the director controller is defined to perform optimal routing of the carrier in the material transport system by directing the director to select one of the plurality exit track zones that provides an optimal routing path for the carrier. JACKSON merely discloses that the system "dynamically adapts to accommodate different sized objects." The Applicants respectfully submit that this teaching is different because even though this statement is true, this statement does not provide that the director controller is defined to perform optimal routing of the carrier in the material transport system by directing the director to select one of the plurality exit track zones that provides an optimal routing path for the carrier.

Furthermore, the Applicants respectfully submit that the Office has not met its initial burden of showing *prima facie* obviousness by presenting evidence as to how HOGG can be combined with JACKSON to disclose each of the limitations set forth in Applicants' claims. The Supreme Court in *KSR* noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit, *in re KSR International Co. v. Teleflex Inc. (KSR)*. The Court in *KSR* quoted *In re Kahn*, which state that "Rejections on obviousness cannot be sustained by

mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” Further, a rejection based on section 103 must rest upon a factual basis rather than conjecture, or speculation. “Where the legal conclusion of obviousness is not supported by the facts it cannot stand.” *In re Warner* 379 F.2d 1011, 1017 (CCPA 1967). The Office asserts that combining HOGG teachings with JACKSON teachings would allow HOGG system to dynamically adapt to accommodate different sized objects/ carriers. The Applicants respectfully submit that even if this statement is true, the combination of HOGG and JACKSON still does not disclose, teach, or suggest the claim limitation “the director controller is defined to perform optimal routing of the carrier in the material transport system by directing the director to select one of the plurality exit track zones that provides an optimal routing path for the carrier.”

Accordingly, the rejection of claim 8 under U.S.C. § 103(a) is traversed. In view of the foregoing, a Notice of Allowance is respectfully requested. If the Examiner has any question that may move the case forward to allowance or has suggestions that can be worked out in advance of an action, the Examiner is respectfully requested to contact the undersigned.

Conclusion

In view of these clarifying claims, the Applicants submit that the cited references do not suggest the recited elements.

The Applicants respectfully submit that all of the pending claims are in condition for allowance. Accordingly, a notice of allowance is respectfully requested. If the Examiner has any questions concerning the present Amendment, the Examiner is kindly requested to contact the undersigned at (408) 774-6927.